

What is claimed is:

- 1 1. A light emission apparatus comprising:
 - 2 a substrate that dissipates heat;
 - 3 an insulation film that covers a main surface of the
 - 4 substrate;
 - 5 a metal wiring pattern provided on the insulation film;
 - 6 a light emission chip that is mounted above the insulation
 - 7 film, is connected to the metal wiring pattern, and emits light
 - 8 having a peak wavelength in a range of 250 nm to 480 nm inclusive;
 - 9 and
- 10 a light reflective layer that is made of particles of metal
- 11 oxide and is provided at any place that has the insulation film
- 12 thereunder, but not light emitting surface of the light emission
- 13 chip thereunder.
- 1 2. The light emission apparatus of Claim 1, wherein
2 the particles of metal oxide have an average particle
3 diameter of 0.50 μ m or below.
- 1 3. The light emission apparatus of any one of Claim 1
2 and Claim 2, wherein
3 the metal oxide is selected from the group consisting
4 of Al₂O₃ and ZnO.
- 1 4. The light emission apparatus of Claim 1, wherein

2 the light emission chip is made of either a resonant light
3 emitting diode or a vertical-cavity surface-emitting laser
4 element.

1 5. The light emission apparatus of Claim 1, wherein
2 a thread hole and a groove are provided with respect to
3 the substrate in a position where the light emission chip is
4 provided in a plan view, the groove being to absorb distortion
5 which occurs when the substrate expands due to heat.

1 6. The light emission apparatus of Claim 1, further
2 comprising a covering member that covers the light emission
3 chip and is made from: a glass substrate; and a phosphor layer
4 that is provided on a main surface of the glass substrate facing
5 the light emission chip and that is excited by light emitted
6 from the light emission chip thereby emitting excitation light.

1 7. The light emission apparatus of Claim 6, wherein
2 the light emission chip is made to abut against the phosphor
3 layer.

1 8. The light emission apparatus of Claim 6, wherein
2 the phosphor layer is made of either: a composition that
3 emits white excitation light by being excited by the light emitted
4 from the light emission chip; or a composition that emits such

5 excitation light that, when synthesized with the light from
6 the light emitting chip, yields white light.

1 9. The light emission apparatus of Claim 6, wherein
2 the glass substrate of the covering member is fitted into
3 a metal frame that is fixed to the substrate by means of welding.